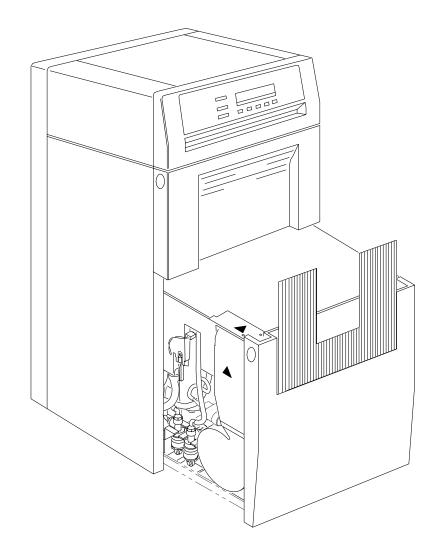


# ADJUSTMENTS AND REPLACEMENTS for the Kodak X-Omat 3000 RA INTEGRATED PROCESSOR in a Kodak X-Omat MULTILOADER 300 PLUS



#### **PLEASE NOTE**

The information contained herein is based on the experience and knowledge relating to the subject matter gained by Eastman Kodak Company prior to publication.

No patent license is granted by this information.

Eastman Kodak Company reserves the right to change this information without notice, and makes no warranty, express or implied, with respect to this information. Kodak shall not be liable for any loss or damage, including consequential or special damages, resulting from any use of this information, even if loss or damage is caused by Kodak's negligence or other fault.



This equipment includes parts and assemblies sensitive to damage from electrostatic discharge. Use caution to prevent damage during all service procedures.



#### **Important**

Use qualified personnel to service the PROCESSOR.



#### Warning

To avoid hazardous conditions, keep floors and floor coverings around your *Kodak X-Omat* Processor and associated drains clean and dry at all times. Any accumulation of fluids from mixing tanks, drain lines, etc., should be cleaned up immediately. In the event of an accumulation of liquid due to backup, overflow, or other malfunctions of the drain associated with your *X-Omat* Processor, call a plumber or other contractor to correct any problem with the drain. Kodak accepts no responsibility or liability whatsoever for the serviceability of any drain connected to or associated with a *Kodak X-Omat* Processor. Such drains are the sole responsibility of the customer.

#### **Table of Contents**

Description	Page
Service Overview	4
Special Tools	4
Electrostatic Discharge	4
Overview	4
Preventive Measures	4
PROCESSOR Overview	5
Identifying and Removing the COVERS and PANELS	5
De-energizing and Energizing the PROCESSOR	6
Removing the RACKS with Solutions in the TANKS	6
<u>Draining and Filling the TANKS</u>	7
ROLLER TRANSPORT	8
Adjusting the Squareness of the RACKS	8
Adjusting the GUIDE SHOES on the DEVELOPER RACK	9
Adjusting the GUIDE SHOE on the DRYER RACK	12
Adjusting the DEVELOPER or FIXER RACK DRIVE CHAIN	13
MAIN DRIVE	14
Removing the DRIVE SHAFT, DRIVE CHAIN, DRIVE MOTOR, WORM GEARS,	
and DRIVE SHAFT BEARINGS	14
Adjusting the Tension on the DRIVE CHAIN	17
<u>DRYER</u>	18
Removing the BLOWER B1	18
Removing the DRYER OVER-TEMPERATURE THERMOSTAT	19
Removing the DRYER THERMISTOR RT3	20
Removing the DRYER HEATER HR3 or THERMAL CUTOFF	21
<u>Plumbing</u>	23

	General Information	23
	Removing the DEVELOPER or FIXER HEATER and THERMISTOR	23
	Removing the DEVELOPER COOLING SOLENOID L2	24
	Removing the WATER SOLENOID VALVE	25
	Removing the POPPET VALVES from the REPLENISHMENT PUMPS	25
	Removing the RECIRCULATION PUMP IMPELLER HOUSING or IMPELLER	26
	Removing the HEAT EXCHANGER or the BARBED FITTINGS	26
Elect	<u>rical</u>	28
	Removing the AUTOTRANSFORMER T1 or EMI LINE FILTER	28
	Removing the 500 BOARD, the MICROPROCESSOR	29
	Removing a SOLID STATE RELAY	31
	Removing the 7000 BOARD (INTERLOCK) and the MOTOR CONTROLLER BOARD	31
	Removing the LEVEL SENSOR HOUSING and the LEVEL SENSOR PROBES	32
	Adjusting the voltage on the QUAD POWER SUPPLY	33

# **Section 1: Service Overview**

# **Special Tools**

Tool No.	Description		
TL-2431	AIR METER		
TL-1434	Carpenter's LEVEL, approximately 30 cm (12 in.) long		
TL-2170	CLAMPS (Order 2)		
7C8444	DIAGNOSTICS DISKETTE		
TL-4430	EXTRACTION TOOL		
TL-3346	GROUNDING KIT		
TL-4391	INTERFACE CABLE		
TL-2324	LITHIUM BALL and ROLLER BEARING GREASE		
TL-1926	MAGNETIC POWER WARNING SIGN		
	PORTABLE COMPUTER1		
1C8022	SEALANT		
TL-2192	THERMAL GREASE		
7C8515	DOWNLOAD DISKETTE		

- 1. Requirements for the PORTABLE COMPUTER:
  - be an IBM compatible computer
  - have MS-DOS version 3.0 or higher installed on the HARD DISK
  - have a 720 KB 3 ½ in. DISK DRIVE
  - have a serial communications port configured as COM 1: See the User Manual for the PORTABLE COMPUTER.

## **Electrostatic Discharge**

#### Overview

ESD--electrostatic discharge--is a primary source of:

- · product downtime
- lost productivity
- · costly repairs

While one cannot feel a static charge of less than 3,500 volts, as few as 30 volts can damage or destroy essential components in electronic equipment.

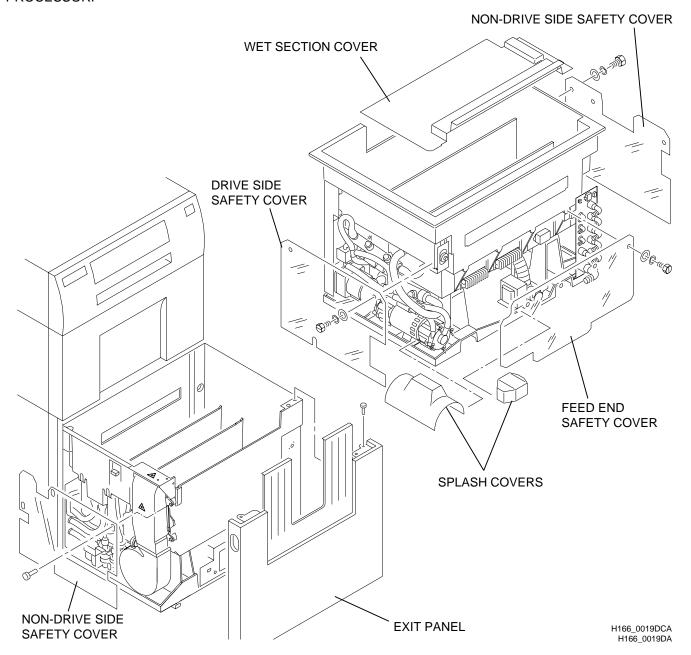
#### **Preventive Measures**

- Always look for an ESD warning label before doing any procedure involving static-sensitive
  components such as CIRCUIT BOARDS. All static-sensitive components are marked with bright
  graphic labels, which frequently include instructions. Follow all label instructions.
- Wear a GROUNDING STRAP when handling static-sensitive components. Always make certain that the CLIP remains attached to a properly grounded, unpainted, clean surface.
- Repair static-sensitive components at an ESD-protected work station or use a PORTABLE GROUNDING MAT. For help in setting up an ESD-protected work station, contact your Kodak representative.
- When moving static-sensitive components from one area to another, insert and transport the components in ESD-protective packaging.

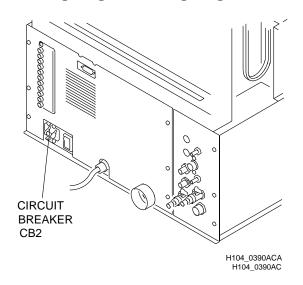
# **PROCESSOR Overview**

# **Identifying and Removing the COVERS and PANELS**

Before you do most of the procedures in this manual, you must remove some PANELS or COVERS from the PROCESSOR.



#### De-energizing and Energizing the PROCESSOR





#### Warning

Dangerous Voltage. For most of the service procedures, the PROCESSOR must be de-energized.

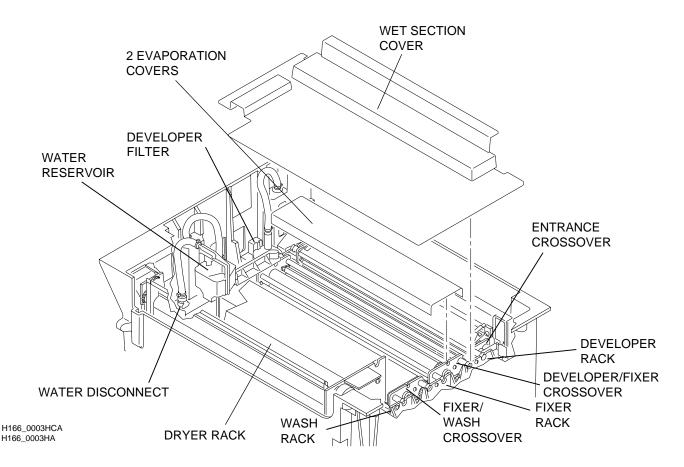
To de-energize the PROCESSOR:

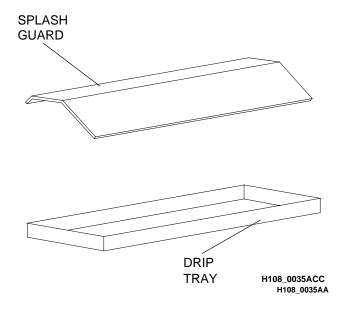
- Move CIRCUIT BREAKER CB2 on the bottom left corner on the back of the MULTILOADER PLUS to the "O" position.
- 2. Move the main power CIRCUIT BREAKER to the "OFF" position.
- 3. Lock the main power CIRCUIT BREAKER.
- 4. Place a MAGNETIC POWER WARNING SIGN TL-1926 on the main power CIRCUIT BREAKER.

To energize the PROCESSOR:

- 1. Unlock the main power CIRCUIT BREAKER.
- 2. Move the main wall CIRCUIT BREAKER to the "ON" position.
- 3. Move CIRCUIT BREAKER CB2 on the MULTILOADER PLUS to the "|" position.

#### Removing the RACKS with Solutions in the TANKS





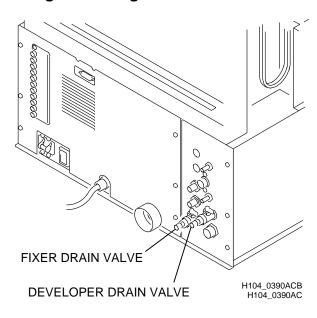


#### Caution

Be careful not to cause spills or contaminate the solutions.

- [1] When you remove or install the RACKS:
  - Do not allow the fixer solution to contaminate the developer solution.
  - Install the SPLASH GUARD between the DEVELOPER TANK and the FIXER TANK when you remove the DEVELOPER RACK.
  - Use DRIP TRAYS under the DEVELOPER and FIXER RACKS.
  - When you remove the RACKS, lift them out of the PROCESSOR slowly and tilt them so that the processing solution drains into the TANK.
  - When you install the RACKS, insert them in the TANK slowly to prevent the processing solutions from splashing over the TANK.

#### **Draining and Filling the TANKS**



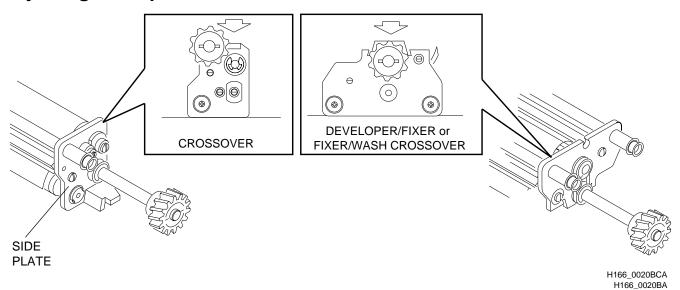
- [1] To drain the TANKS, de-energize the PROCESSOR and open the DEVELOPER and FIXER DRAIN VALVES.
- [2] To fill the TANKS, do the steps below.
  - (a) Close the DRAIN VALVES and push the PROCESSOR into the MULTILOADER.
  - (b) Energize the PROCESSOR.
  - (c) From the main menu on the DISPLAY PANEL, select "PROC". Then press:
    - GO TO SETUP key
    - 4-digit access code, 4213
    - OPTIONS key
    - REPLEN MODE key
    - TANK FILL key

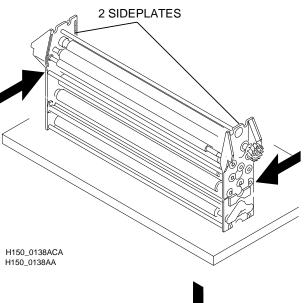


See the OPERATOR GUIDE for the *Kodak X-Omat* MULTILOADER 300 PLUS for more details on draining and filling the PROCESSING TANKS.

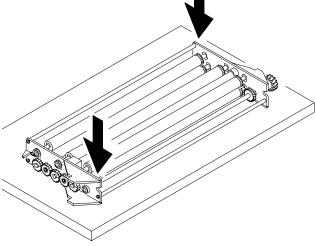
# **Section 2: ROLLER TRANSPORT**

# Adjusting the Squareness of the RACKS





- [1] Place the RACK on a smooth, flat surface.
- [2] Check whether the SIDEPLATES of the RACK touch the flat surface evenly. If they do not touch evenly, apply pressure to the assembly. See the figure at the left for where to apply pressure to the DEVELOPER and FIXER RACKS. See the figure below for where to apply pressure to the WASH RACK.



8 28JAN98 – 7C8285

H104\_0139AA

# Adjusting the GUIDE SHOES on the DEVELOPER RACK



#### **Important**

Before doing this procedure, do the procedures listed below:

- Adjusting the Squareness of the DEVELOPER RACK on <a href="Page 8">Page 8</a>.
- Adjusting the Tension on the DRIVE CHAIN on <u>Page 17</u>.



#### Warning

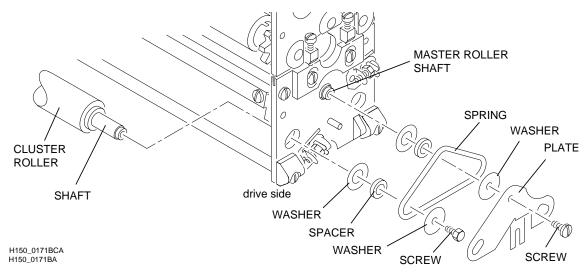
Dangerous voltage.

[1] De-energize the PROCESSOR.

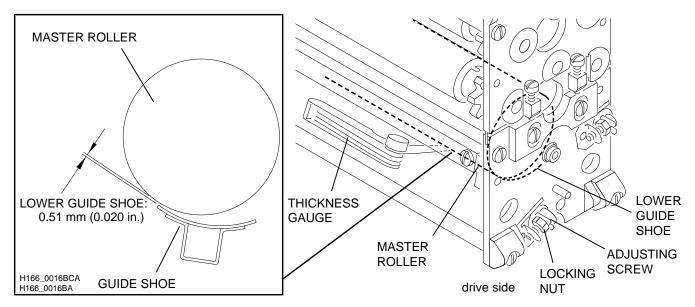


#### Note

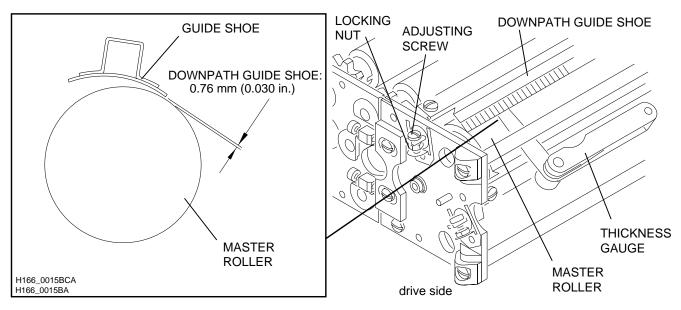
To prevent the contamination of the processing solutions, use the RACK SPLASH GUARD and DRIP TRAY when you remove the RACK from the PROCESSOR.



- [2] Remove the DEVELOPER RACK from the PROCESSOR.
- [3] Remove the SPRING from each end of the TURNAROUND section of the DEVELOPER RACK.
- [4] Remove the following parts from the drive end of the MASTER ROLLER SHAFT:
  - SCREW
  - LOCKING PLATE
  - WASHER
- [5] Install the SCREW and WASHER removed in the previous step to hold the MASTER ROLLER SHAFT in position.
- [6] While holding the SCREW that secures the drive end of one of the CLUSTER ROLLERS, rotate the SCREW that secures the non-drive side of the CLUSTER ROLLER.
- [7] Remove the following parts from either end of the CLUSTER ROLLER.
  - SCREW
  - 2 WASHERS
  - SPACER
- [8] Pull the CLUSTER ROLLER SHAFT out through the SIDEPLATE of the DEVELOPER RACK.
- [9] Remove the CLUSTER ROLLER from the DEVELOPER RACK.
- [10] Repeat Step 6 through Step 9 for the second CLUSTER ROLLER.



- [11] Loosen the LOCKING NUT on the ADJUSTING SCREW for the LOWER GUIDE SHOE on the drive end of the DEVELOPER RACK. See the figure above.
- [12] Insert a THICKNESS GAUGE between the LOWER GUIDE SHOE and the MASTER ROLLER as close to the end of the LOWER GUIDE SHOE as possible.
- [13] Rotate the ADJUSTING SCREW for the LOWER GUIDE SHOE until the LOWER GUIDE SHOE and MASTER ROLLER are .51 mm (.020 in.) apart:
- [14] Hold the ADJUSTING SCREW in position and tighten the LOCKING NUT.
- [15] Repeat Steps 11 through 14 for the non-drive end of the same GUIDE SHOE.



- [16] Loosen the LOCKING NUT on the ADJUSTING SCREW for the DOWNPATH GUIDE SHOE. See the figure above.
- [17] Insert a THICKNESS GAUGE between the DOWNPATH GUIDE SHOE and the MASTER ROLLER as close to the end of the DOWNPATH GUIDE SHOE as possible.
- [18] Rotate the ADJUSTING SCREW for the DOWNPATH GUIDE SHOE until the DOWNPATH GUIDE SHOE and MASTER ROLLER are .76 mm (.030 in.) apart.
- [19] Hold the ADJUSTING SCREW in position and tighten the LOCKING NUT.

[20] Repeat Steps 16 through 19 for the non-drive end of the same GUIDE SHOE.



See Figure on Page 9 when doing the following steps:

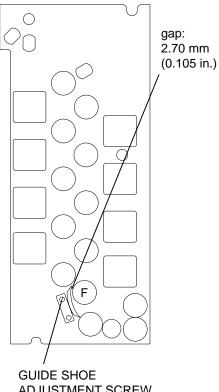


#### Important

When you install the CLUSTER ROLLERS, install the HEX HEAD SCREW on the DRIVE END of the DEVELOPER RACK.

- [21] Install one of the CLUSTER ROLLERS and SHAFTS so that the GEAR on the CLUSTER ROLLER engages with the GEAR on the MASTER ROLLER.
- [22] Install the parts removed in Step 7 on the CLUSTER ROLLER.
  - WASHER
  - SPACER
  - WASHER
  - SCREW
- [23] Repeat Steps 21 and 22 for the second CLUSTER ROLLER.
- [24] Remove the SCREW and WASHER that you installed in the drive end of the MASTER ROLLER in Step 5.
- [25] Push the non-drive end of the MASTER ROLLER SHAFT until the SHAFT extends as far as possible past the drive end SIDEPLATE.
- [26] Hold the non-drive end of the MASTER ROLLER SHAFT in position and install the following parts into the drive end of the MASTER ROLLER SHAFT:
  - WASHER
  - LOCKING PLATE
  - SCREW
- [27] Install the 2 SPRINGS removed from the TURNAROUND section of the RACK in Step 3.
- [28] Rotate the RACK so that it stands upright.
- [29] Check the RACK for squareness.
- [30] Install the RACK into the PROCESSOR.

# Adjusting the GUIDE SHOE on the DRYER RACK



- H150\_0212GCA H150\_0212GA
- ADJUSTMENT SCREW

- [1] Remove parts as necessary from the DRYER RACK to obtain access to the bottom GUIDE SHOE ADJUSTMENT SCREWS.
- [2] Remove ROLLERS and AIR TUBES as necessary to be able to measure the clearance between the GUIDE SHOE and the "F" ROLLER.
- [3] Loosen the GUIDE SHOE ADJUSTMENT SCREWS.
- [4] Set the distance between the "F" ROLLER and the **GUIDE SHOE:** 
  - (a) Place a 2.70 mm (0.105 in.) FEELER GAUGE between the "F" ROLLER and the long edge of the GUIDE SHOE.
  - (b) Hold the GUIDE SHOE against the FEELER GAUGE and tighten the GUIDE SHOE ADJUSTMENT SCREW.



#### **Important**

The clearance along the length of the GUIDE SHOE and the ROLLER must be uniform.

- [5] Check that the adjustment has not changed. The clearance must be: 2.70 mm (0.105 in.) +/- 0.10 mm (0.005 in.).
- [6] Check for correct operation of the DRYER RACK by running 35.0 cm x 43.0 cm (14 in. x 17 in.) films.
- [7] If the DRYER RACK bottom GUIDE SHOE causes scratching or stubbing of the film, make the following adjustments as necessary:



#### Note

Make the adjustments in small increments of approximately 0.10 mm (0.005 in.) to prevent scratching or stubbing of the film.

- [8] If scratching occurs, increase the distance between the bottom GUIDE SHOE and the "F" ROLLER.
- [9] If stubbing occurs, decrease the distance between the GUIDE SHOE and the "F" ROLLER.
- [10] Check for correct operation of the PROCESSOR.

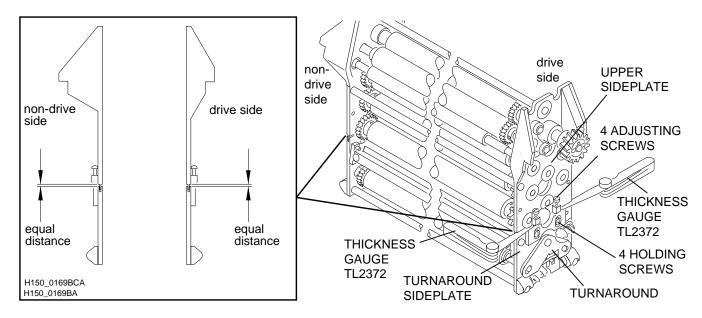
12 28JAN98 - 7C8285

# Adjusting the DEVELOPER or FIXER RACK DRIVE CHAIN

#### Note

To prevent the contamination of the processing solutions, use the RACK SPLASH GUARD and DRIP TRAY when you remove the RACK from the PROCESSOR.

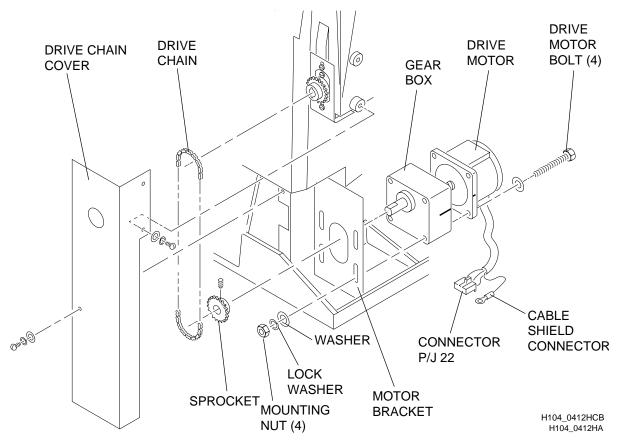
[1] Remove the DEVELOPER or FIXER RACK.



- [2] Loosen the 2 HOLDING SCREWS at each end of the RACK approximately 1 full turn.
- [3] Hold the RACK vertically above the work surface and allow gravity to provide full tension on the TURNAROUND.
- [4] If necessary, turn the 2 ADJUSTING SCREWS on the drive end of the RACK counterclockwise until the SCREWS do not contact the TURNAROUND SIDEPLATE.
- [5] Rotate the DRIVE GEAR 6 full turns.
- [6] Tighten the 2 HOLDING SCREWS on the drive end of the RACK.
- [7] Place the RACK vertically on a flat work surface.
- [8] Rotate the 2 ADJUSTING SCREWS on the drive end of the RACK clockwise until both SCREWS just touch the TURNAROUND SIDEPLATE on the drive end of the RACK.
- [9] Loosen the 2 HOLDING SCREWS on the drive end of the RACK approximately 1 full turn.
- [10] Rotate the 2 ADJUSTING SCREWS on the drive end of the RACK counterclockwise 1 full turn.
- [11] Tighten the 2 HOLDING SCREWS on the drive end of the RACK.
- [12] Using a THICKNESS GAUGE TL-2372 measure the distance between the UPPER SIDEPLATE and the TURNAROUND SIDEPLATE on the drive end of the RACK.
- [13] Rotate the 2 ADJUSTING SCREWS on the non-drive end of the RACK until the distance between the UPPER SIDEPLATE and the TURNAROUND SIDEPLATE is the same as the distance between the 2 SIDEPLATES on the drive end of the RACK.
- [14] Tighten the 2 HOLDING SCREWS on the non-drive end of the RACK.
- [15] Assemble the PROCESSOR and check that it operates correctly.

# **Section 3: MAIN DRIVE**

# Removing the DRIVE SHAFT, DRIVE CHAIN, DRIVE MOTOR, WORM GEARS, and DRIVE SHAFT BEARINGS





It is not necessary to remove the DRIVE MOTOR to remove the DRIVE SHAFT.

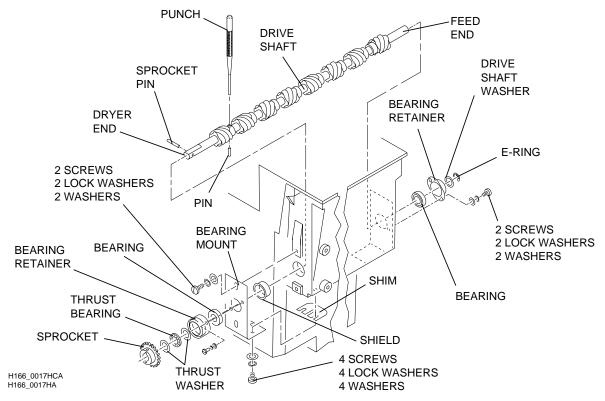


#### Warning

Dangerous voltage.

- [1] De-energize the PROCESSOR.
- [2] Remove:
  - DRIVE CHAIN COVER
  - DRIVE CHAIN
  - DRIVE MOTOR (if necessary)
- [3] Remove from the FEED END of the DRIVE SHAFT:
  - E-RING
  - DRIVE SHAFT WASHER (quantity may vary)
  - BEARING RETAINER and BEARING (if necessary)

[4] For access to the SPROCKET PIN, move the DRIVE SHAFT toward the RECEIVE END of the PROCESSOR.



- [5] Remove from the DRYER END of the DRIVE SHAFT:
  - SPROCKET PIN and SPROCKET
  - 2 THRUST WASHERS
  - THRUST BEARING
  - BEARING RETAINER and BEARING
  - BEARING MOUNT
  - any SHIMS and SHIELD



#### **Important**

Observe the quantity of SHIMS removed. When assembling the DRIVE SHAFT, install the same quantity of SHIMS.

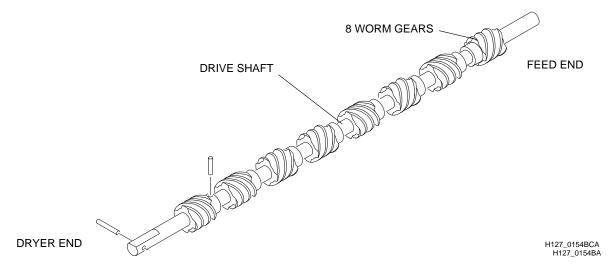
[6] Remove the DRIVE SHAFT by slowly pulling it toward the DRYER END of the PROCESSOR.



#### **Important**

- Check the direction of the WORM GEARS. See the figure below for correct installation on the DRIVE SHAFT.
- When you install the DRIVE SHAFT, install a quantity of DRIVE SHAFT WASHERS until the DRIVE SHAFT has minimum play from side to side.
- [7] If necessary, remove any WORM GEARS that have wear from the DRIVE SHAFT. Use a PUNCH to remove the ROLL PIN from the WORM GEAR.
- [8] Reverse the above procedure to install a new DRIVE SHAFT. Install the same quantity of SHIMS that you removed in Step 5.

[9] Adjust the tension on the DRIVE CHAIN.

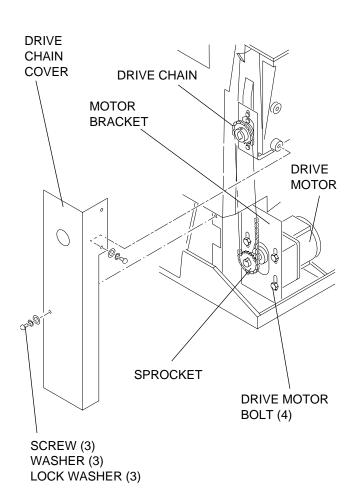




You must install all SAFETY COVERS which were removed for access.

[10] Install the COVERS and PANELS. See Page 5.

# **Adjusting the Tension on the DRIVE CHAIN**



H104\_0593CCA H104\_0593CA



## Warning

Dangerous voltage.

- [1] De-energize the PROCESSOR.
- [2] Remove the DRIVE CHAIN COVER.
- [3] Loosen the 4 DRIVE MOTOR BOLTS from the MOTOR BRACKET.
- [4] Press down on the DRIVE MOTOR to tighten the DRIVE CHAIN. Allow 5 mm (½ in.) deflection of the DRIVE CHAIN at the center of the DRIVE CHAIN.
- [5] Tighten the 4 DRIVE MOTOR BOLTS.



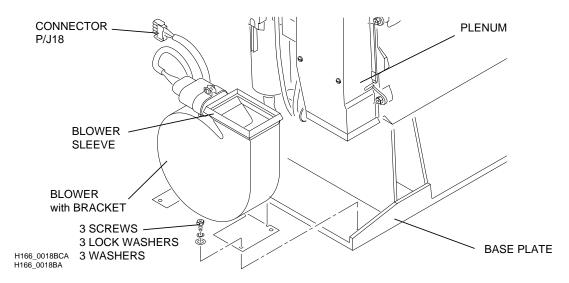
#### Warning

You must install all SAFETY COVERS which were removed for access.

[6] Install the COVERS and PANELS. See Page 5.

# **Section 4: DRYER**

# **Removing the BLOWER B1**





#### Warning

Dangerous voltage.

- [1] De-energize the PROCESSOR.
- [2] Remove the BLOWER with BRACKET. See the Figure.
- [3] Transfer the BLOWER SLEEVE from the existing BLOWER to the new BLOWER.
- [4] Install the new BLOWER and assemble the PROCESSOR.



#### Note

When you install the new BLOWER, be sure that the BLOWER SLEEVE is positioned correctly to prevent air leaks.

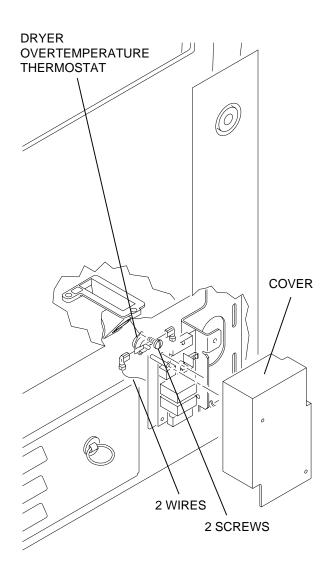


#### Warning

You must install all SAFETY COVERS which were removed for access.

[5] Install the COVERS and PANELS. See Page 5

# Removing the DRYER OVER-TEMPERATURE THERMOSTAT





#### **Important**

The DRYER OVER-TEMPERATURE THERMOSTAT automatically resets after an over-temperature condition.



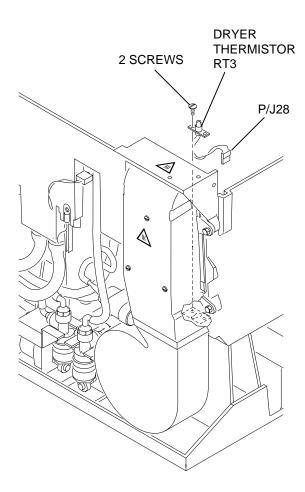
#### Warning

Dangerous voltage.

- [1] De-energize the PROCESSOR.
- [2] Remove the DRYER OVER-TEMPERATURE THERMOSTAT. See the Figure.

H166\_0023CCA H166\_0023CA

# Removing the DRYER THERMISTOR RT3



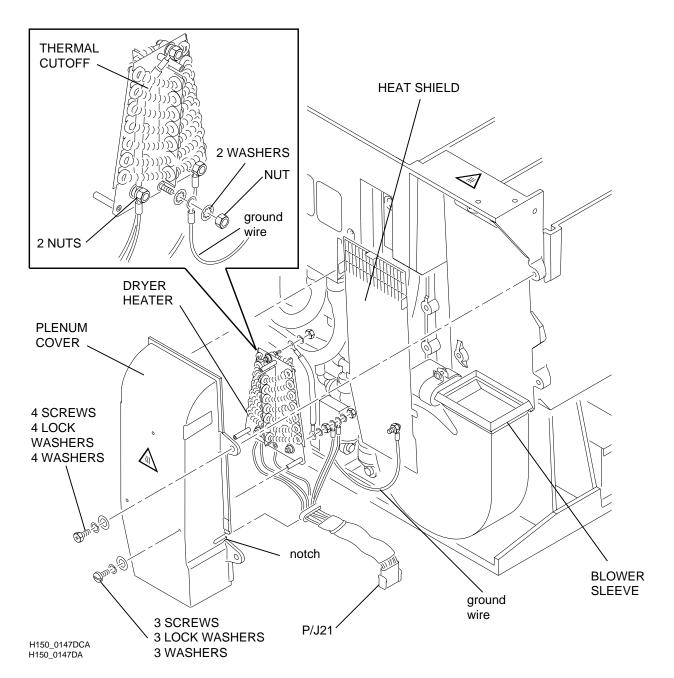


Dangerous voltage.

- [1] De-energize the PROCESSOR.
- [2] Remove the DRYER RACK.
- [3] Remove the DRYER THERMISTOR RT3. See the Figure.

H150\_0148CCA H150\_0148CA

# Removing the DRYER HEATER HR3 or THERMAL CUTOFF





#### Warning

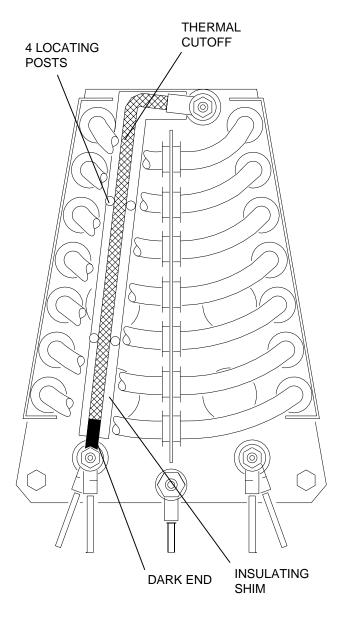
The PLENUM COVER may be hot. Allow it to cool before you remove the DRYER HEATER.



#### Warning

Dangerous voltage.

- [1] De-energize the PROCESSOR.
- [2] Remove the desired component. See the Figure.



H150\_0174CCA H150\_0174CA



#### Caution

If you install a new THERMAL CUTOFF, do the following steps:

- Check for any parts that are not operating correctly and might cause the THEMAL CUTOFF to open.
- Check that you installed the THERMAL CUTOFF in the correct position:
  - 1. Place the dark end of the THERMAL CUTOFF at the bottom of the HEATER.
  - 2. Place the THERMAL CUTOFF flush against the INSULATING SHIM.
  - 3. Place the THERMAL CUTOFF between the 2 pairs of LOCATING POSTS.
- See Figure . The THERMAL CUTOFF must be installed correctly. If it is not installed correctly, the THERMAL CUTOFF might not protect the PROCESSOR or it might open when there is no over-temperature condition.



#### Note

When you install the new BLOWER, be sure that the BLOWER SLEEVE is positioned correctly to prevent air leaks.



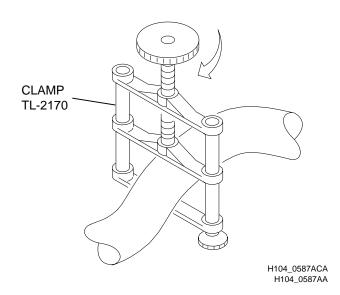
#### Warning

You must install all SAFETY COVERS which were removed for access.

[3] Install the COVERS and PANELS. See Page 5.

# **Section 5: Plumbing**

#### **General Information**

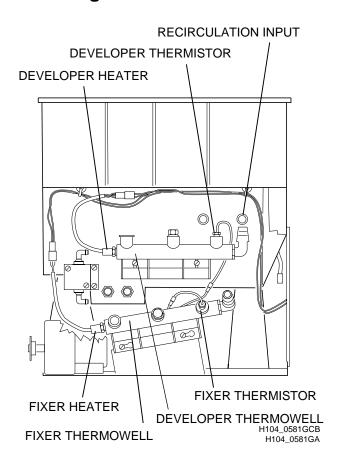




#### **Important**

- When you disconnect plumbing connections, use CLAMP TL-2170 to stop the flow of solution in the HOSES. If you use CLAMP TL-2170, in most cases, you will not need to drain the TANK.
- When you remove plumbing components, see this section, as well as the COMPONENT LOCATOR manual and the PARTS LIST for illustrations that show the location of parts and show the parts exploded off the components.

# Removing the DEVELOPER or FIXER HEATER and THERMISTOR





#### **Important**

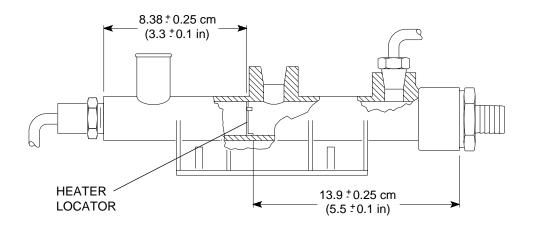
- When you install the HEATERS or THERMISTORS, do not overtighten the parts.
- Use only SEALANT TL-3230 when you install the HEATERS or THERMISTORS into the THERMOWELL. Other SEALANTS might weaken the plastic in the THERMOWELL. See the instructions packed with the SEALANT.
- It is not necessary to remove the THERMOWELL from the PROCESSOR to remove the DEVELOPER HEATER or DEVELOPER or FIXER THERMISTORS. For access to the FIXER HEATER:
  - 1. Move the RECIRCULATION PUMP.
  - 2. Move the FIXER THERMOWELL.
- Before you remove the DEVELOPER HEATER or THERMISTOR, drain the DEVELOPER TANK to below the recirculation input opening. (The CLAMP TL-2170 will not work correctly on the short length of HOSES.)
- [1] See the illustration to remove the desired part.
- [2] When you install the HEATERS, check that the internal LOCATOR is positioned correctly inside the THERMOWELL. See the illustration below.



#### Warning

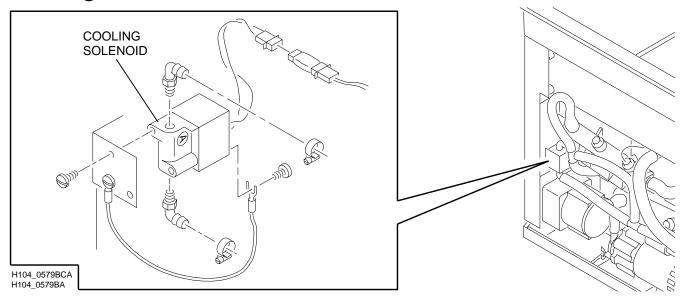
You must install all SAFETY COVERS which were removed for access.

[3] Install the COVERS and PANELS. See Page 5.



H104\_0592BCA H104\_0592BA

# Removing the DEVELOPER COOLING SOLENOID L2



[1] See the illustration to remove the SOLENOID.



#### Caution

When you install the new SOLENOID:

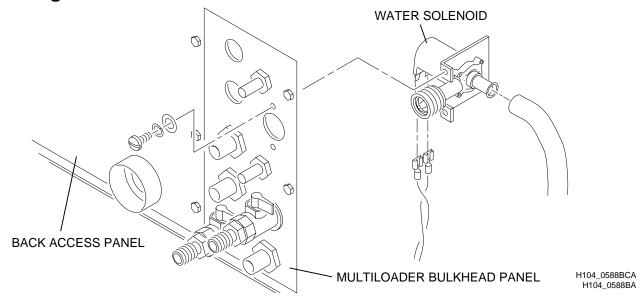
- install the SOLENOID so that the A is at the top and the C is at the bottom.
- apply only SEALANT TL3230 on the FITTINGS.
- do not overtighten the parts.



You must install all SAFETY COVERS which were removed for access.

[2] Install the COVERS and PANELS. See Page 5.

# Removing the WATER SOLENOID VALVE



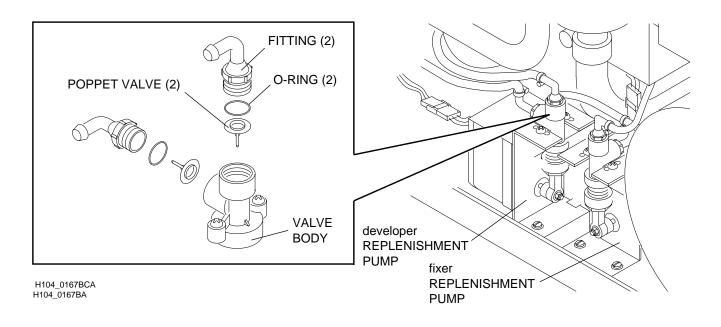
- [1] Remove the BACK ACCESS PANEL and the MULTILOADER BULKHEAD PANEL to gain access to the VALVE.
- [2] See the illustration to remove the VALVE.

# Removing the POPPET VALVES from the REPLENISHMENT PUMPS



# Important

- Observe the direction of the POPPET VALVES and the location of the O-RINGS before you remove them.
- For easier access to the POPPET VALVES, you may want to remove the REPLENISHMENT PUMP.





#### Warning

You must install all SAFETY COVERS which were removed for access.

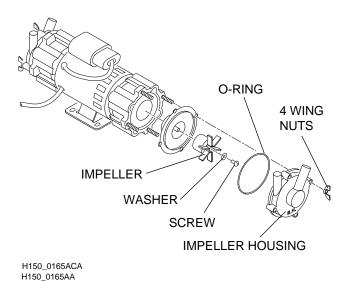
[1] Install the COVERS and PANELS. See Page 5.

# Removing the RECIRCULATION PUMP IMPELLER HOUSING or IMPELLER



#### Note

Use this procedure for removing the IMPELLER HOUSING from the DEVELOPER RECIRCULATION PUMP or for removing the IMPELLER HOUSING from the FIXER RECIRCULATION PUMP.



- [1] Remove the RECIRCULATION PUMP.
- [2] Remove the desired component.



#### Caution

To prevent contamination:

- Do not interchange the developer and fixer IMPELLERS.
- Do not interchange the developer and fixer IMPELLER HOUSINGS.
- [3] When assembling the IMPELLER:
  - Check the O-RING for wear. If necessary, install a new O-RING.
  - To prevent leakage, check that the O-RING seats correctly.

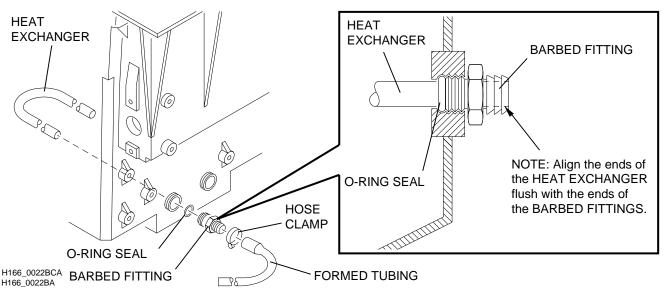


#### Warning

You must install all SAFETY COVERS which were removed for access.

[4] Install the COVERS and PANELS. See Page 5.

# Removing the HEAT EXCHANGER or the BARBED FITTINGS



- [1] Use the Figure to remove the HEAT EXCHANGER or the BARBED FITTINGS.
  - Install new O-RING SEALS. Do not use the O-RING SEALS again.
  - Do not overtighten the BARBED FITTINGS.
  - When you install a new HEAT EXCHANGER, align the ends of the HEAT EXCHANGER with the ends of the BARBED FITTINGS.



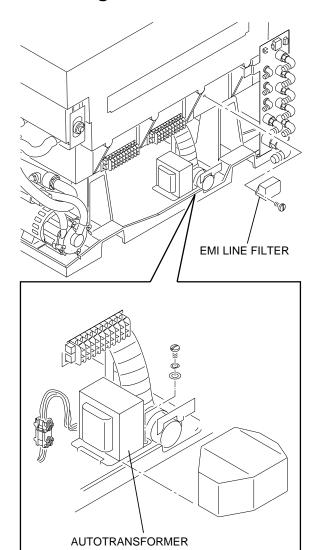
#### Warning

You must install all SAFETY COVERS which were removed for access.

[2] Install the COVERS and PANELS. See Page 5.

# **Section 6: Electrical**

# Removing the AUTOTRANSFORMER T1 or EMI LINE FILTER



H104\_0580CCA H104\_0580CA

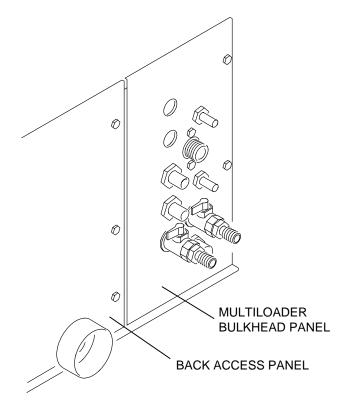
- [1] De-energize the PROCESSOR.
- [2] For easier access, remove the BACK ACCESS PANEL and the MULTILOADER BULKHEAD PANEL.
- [3] For more play in the HOSES, place the MULTILOADER BULKHEAD PANEL inside the MULTILOADER.
- [4] Fully extend the PROCESSOR from the MULTILOADER.
- [5] Remove the FEED END SAFETY COVER.
- [6] For easier access to the AUTOTRANSFORMER and LINE FILTER, push the PROCESSOR back into the MULTILOADER.
- [7] Working from the back of the MULTILOADER, remove the desired part. Record the position of the wires for the installation of the new part.



#### Warning

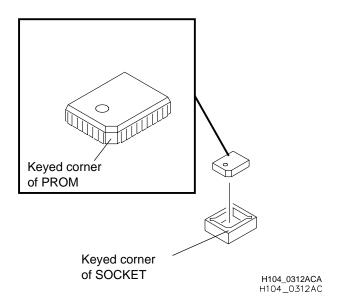
You must install all SAFETY COVERS which were removed for access.

[8] Install the COVERS and PANELS. See Page 5.



H104\_0585GCA H104\_0585GC

# Removing the 500 BOARD, the MICROPROCESSOR





Possible damage from electrostatic discharge.



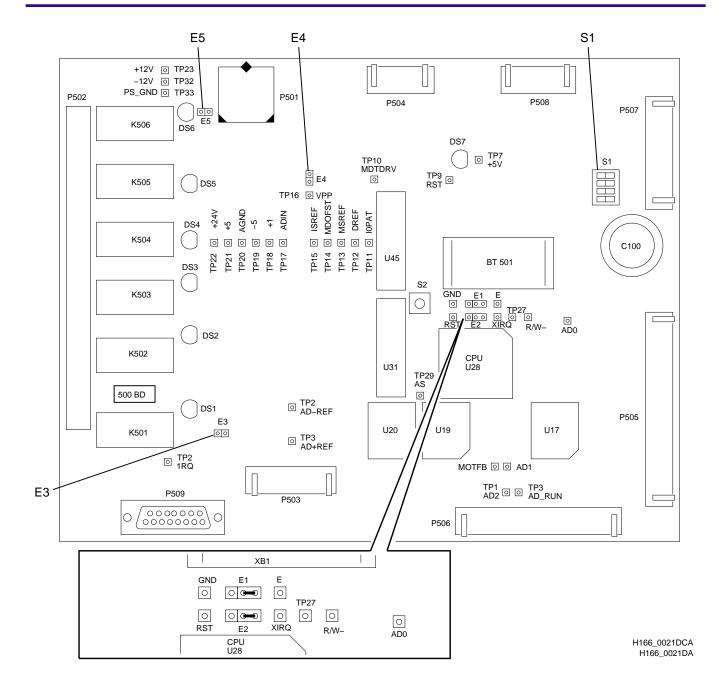
#### Warning

Dangerous voltage.

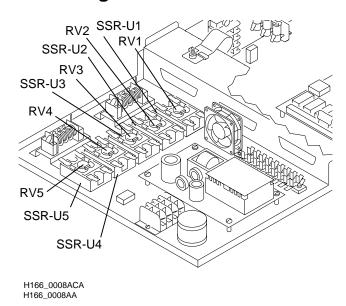
- [1] De-energize the PROCESSOR.
- [2] Using EXTRACTION TOOL TL-4430, remove the 3 PROMS/EEPROMS U17, U19, and U20 from the 500 BOARD:
  - (a) Move the 3 PROMS/EEPROMS U17, U19, and U20 to the new 500 BOARD.
  - **(b)** Place each EEPROM carefully on the SOCKET.
  - (c) Check that the keyed corners are aligned.
  - (d) Press the EEPROM firmly into the SOCKET.
- [3] Check that the EEPROMS are installed in the correct SOCKETS.
- [4] Remove the BATTERY from the existing 500 BOARD and install the BATTERY on the new 500 BOARD.
- [5] Check the positions of the SWITCHES and the JUMPERS:

Position	Installation	
S1 Switch	All positions off	
JUMPER E1	JUMPER PINS 1 and 2	
JUMPER E2	JUMPER PINS 1 and 2	
JUMPER E3	None	
JUMPER E4	None	
JUMPER E5	None	

[6] Install the new 500 BOARD.



# Removing a SOLID STATE RELAY





Possible damage from electrostatic discharge.



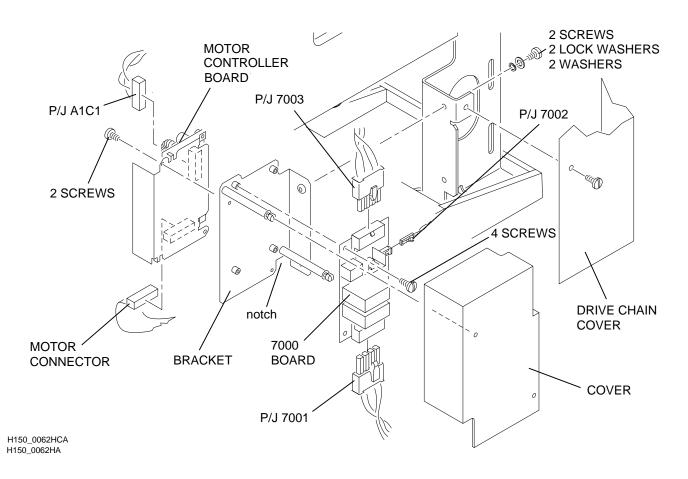
Dangerous voltage.

- [1] De-energize the PROCESSOR.
- [2] Record the 4 wire positions on the SOLID STATE RELAY (SSR) that you want to remove.
- [3] Apply THERMAL GREASE TL-2324 under the new SOLID STATE RELAY. Use a thin application, but cover the area under the SOLID STATE RELAY completely.
- [4] Install a new METAL OXIDE VARISTOR (RV) on the new SOLID STATE RELAY.

# Removing the 7000 BOARD (INTERLOCK) and the MOTOR CONTROLLER BOARD



Possible damage from electrostatic discharge.



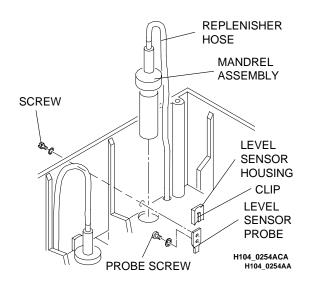


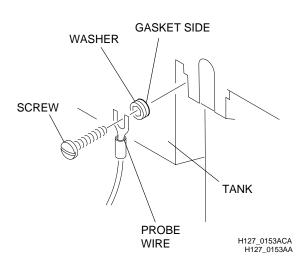
#### Warning

Dangerous voltage.

- [1] De-energize the PROCESSOR.
- [2] Remove:
  - COVER protecting the BOARDS
  - DRIVE CHAIN COVER
  - BRACKET with the 2 BOARDS
- [3] Remove the desired BOARD.
- [4] When you install the new BOARDS and the BRACKET, route the wires from CONNECTORS 7001 and 7002 through the notch in the BRACKET.

# Removing the LEVEL SENSOR HOUSING and the LEVEL SENSOR PROBES





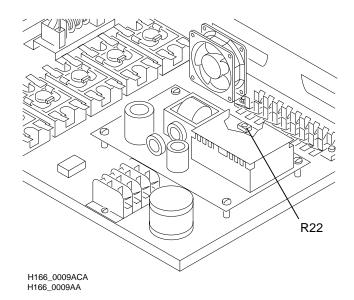


Possible damage from electrostatic discharge.

Corrosion deposits on the LEVEL SENSOR parts may prevent the level sense circuit from operating correctly. Clean or replace parts as necessary.

- [1] See the illustrations to remove the desired part.
- [2] When you install the new part, check that the PROBE WIRE is correctly attached to the SCREW and WASHER. Install the GASKET SIDE of the WASHER against the TANK. See the figure.

# Adjusting the voltage on the QUAD POWER SUPPLY





Possible damage from electrostatic discharge.

- [1] Measure the DC voltage between TP5 (COMMON) and TP7 (+5 V DC) on the 500 BOARD.
- [2] If necessary, use R22 to adjust the voltage to 5.0 0.1 V DC

**Publication History** 

Print Date	Pub No.	ECO No.	Affected Pages	File Name	Notes
Jan. 98	7C8285	N/A	All	ar3488_1_28jan98.fm	First Printing.

Kodak and X-Omat are trademarks.

Printed in U.S.A. • ar3488\_1.fm